

AMENDMENTS TO THE DRAWING

Submitted herewith on a separate sheet of paper is a "Request for Entry of Proposed Drawing Corrections", together with a red-lined version of the Figures 1b-1 and Fig. 1b-2 showing the two separate views with the redundant labels "Fig. 1b", "I-I" and "II-II" removed.

Attachment: "Request for Entry of Proposed Drawing Corrections"

REMARKS/ARGUMENT

Claims 25, 32, and 37 are amended herein. Claims 27, 34, and 38 are canceled herein without prejudice. Accordingly, claims 25, 28-32, 35-37 and 39-42 are currently pending in the present application. It is respectfully submitted that the amendments to claims 25, 32, and 37 do not add new matter and have adequate support throughout the Specification.

Otherwise, Applicants respectfully traverse all objections and claim rejections for the reasons that follow.

I. OBJECTIONS TO THE DRAWINGS

The drawings were objected to because lines I-I and II-II were not described in the "brief description of the drawings", and because the labels "Fig. 1b", "I-I" and "II-II" remain in the drawings even though the two separate views of Figure 1b are not numbered separately.

Submitted herewith on a separate sheet of paper is a "Request for Entry of Proposed Drawing Corrections", together with a red-lined version of the Figures 1b-1 and Fig. 1b-2 showing the two separate views of the former Figure 1b without the redundant use of labels "Fig. 1b", "I-I" and "II-II". Additionally, the Specification is amended herein to include a description of lines I-I and II-II in the "brief description of the drawings" and the respective discussions of figures 1b-1 and 1b-2 in the Specification. It is respectfully submitted that the amendments to the Specification and the Drawings address the concerns expressed in the Office Action without adding new matter. Accordingly, it is kindly requested that the objections to the drawings be withdrawn.

II. OBJECTION TO THE TITLE

The title of the invention was objected to because it indicated that the claimed invention comprises a method. Applicant amended the title herein to remove any reference to a method. It is respectfully submitted that the amended title clearly indicates the invention to which the claims are directed. Therefore, withdrawal of the objection to the title is respectfully requested.

III. OBJECTIONS TO THE SPECIFICATION

The “field of invention” at page 1 was objected to because it indicated that the claimed invention is a method. Applicant herein amended the “field of invention” to remove any reference to a method therein. It is respectfully submitted that the “field of invention”, as amended, clearly indicates the invention to which the claims are directed without adding new matter. Therefore, withdrawal of the objection to the “field of invention” is respectfully requested.

Additionally, page 10, line 14 was objected to because it redundantly referred to Fig. 1b and “two views I-I and II-II”. Accordingly, Applicant has removed those and any other potentially redundant uses of “Fig. 1b” and reference to lines “I-I” and “II -II” throughout the Specification. Therefore, Applicant respectfully requests the withdrawal of these objections to the Specification.

IV. OBJECTIONS TO CLAIMS 25 AND 32

Claims 25 and 32 were objected to for reciting a recess provided “only in the region of stress” while page 4, lines 1 & 2 describe the recess as being “at least” in an area of stress. Although Applicants believe that the Specification supports a recess “only in the region of stress,” such a limitation would unnecessarily limit the claims. Accordingly, Applicants have amended claims 25 and 32 to remove limitations to “only in the region of stress” and recite “at least one region of stress.”

The Specification supports the existence of at least one recess provided in at least one region of stress. A “region of stress” is a distinct region that does not encompass the entire circumference of the bore, but rather is limited to “a region . . . adjacent to the journal, **at which the journal exerts a radial force capable of elastically or plastically deforming the bearing part of the roller-bearing arrangement.**” (*See, Spec.*, page 2, line 24 to page 3, line 2; *Spec.*, page 4, line 22 to page 5, line 2; Figs. 2a1 through 2a4; *Spec.*, page 9, lines 8 - 23). There is at least one such region of stress because “the supporting surface has **a local recess at least in the region of the roller members . . . that . . . are most highly stressed during torque transmission.**”

(*Spec.*, page 3, line 28 to page 4, line 2). “It is proposed that the supporting surface 10a, which is formed by the bore 9a, be provided with recesses 20 locally **in the regions** which support the most highly stressed rolling elements 14 of the roller-bearing arrangement 11.” (*Spec.*, page 8, lines 26-28). Accordingly, it is respectfully submitted that the amendments to claims 25 and 32 do not add new matter and are adequately supported by the Specification. Therefore, withdrawal of the objections to claims 25 and 32 is respectfully requested.

V. OBJECTIONS TO CLAIMS 27, 34 & 38

Claims 27, 34 & 38 are objected to under 37 C.F.R. 1.75(c), for allegedly failing to further limit the subject matter of a previous claim. Applicant has canceled claims 27, 34 and 38 herein without prejudice. Accordingly, the objections to these claims are moot and withdrawal of the objections to these claims is kindly requested.

VI. REJECTIONS OF CLAIMS 37-42 UNDER 35 U.S.C. § 112, 1ST PARAGRAPH

Claims 37-42 were rejected under 35 U.S.C. § 112, first paragraph, for failing to fulfill the written description requirement by not particularly pointing out and distinctly claiming the subject matter which Applicants regard as the invention at the time the application was filed. Respectfully, Applicants traverse.

“[T]o satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed.” M.P.E.P. § 2163.02. “The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon ‘reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.’” M.P.E.P. § 2163.02, quoting *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 U.S.P.Q. (BNA) 177,179 (Fed. Cir. 1985) (citation omitted). “An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997);

M.P.E.P. § 2163.02. “[A]pplicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art” through “functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought.”

M.P.E.P. § 2173.01.

Applicants, as their own lexicographers, defined the term “region of stress” in the specification and in the amended claims as “a region . . . adjacent to the journal, **at which the journal exerts a radial force capable of elastically or plastically deforming the bearing part of the roller-bearing arrangement.**” (*See, Spec.*, page 2, line 24 to page 3, line 2; *Spec.*, page 4, line 22 to page 5, line 2; Figs. 2a1 through 2a4; *Spec.*, page 9, lines 8 - 23).

Claim 37, as amended, recites “the roller-bearing arrangement having a **first region of stress** adjacent to the journal, at which the journal exerts a radial force capable of elastically deforming the bearing part or the roller-bearing arrangement. . . wherein the supporting surface of the bearing part is provided with **a recess over the entire first region of stress.**”

The Specification clearly supports the existence of “a recess over the entire first region of stress.” The Examiner objects to Applicants’ previous reference to Figure 2 as a failed attempt to support the limitation of “a recess over the entire first region of stress.” However, Figures 2a1 and 2a2 define a region of stress and are herein referenced solely to illustrate the typical deformations that cause poor bearing functionality -- a characteristic of prior art devices. Similarly, Figure 2b further demonstrates the radial deforming forces imposed on the bore surface that create the regions of stress (see, Fig. 2a3), this “**radial force [is] capable of elastically deforming the bearing part or the roller-bearing arrangement**” as seen in Fig. 2a1 and 2a2. The supporting surface is “provided with recesses 20 locally in the regions which support the most highly stressed rolling elements 14 of the roller-bearing arrangement 11.” (*Spec.*, page 9, lines 26-28; see Fig. 1a). “The profile of the recess cut into the supporting surface [may cover] . . . 1/10 to 5/10 of the supporting surface.” (*Spec.*, page 11, lines 10-11). In fact, the very position, design and profile of the recess is wholly dependant on “the load situation.” (*Spec.*, page 11, lines 11-14). In accordance with one of the purposes of this invention, the recess

may be positioned and configured to allow deformation of the bearing member within the recess in order to dissipate the radial stresses transferred to the recess surface, for example, by as much as 40%. (*See, Spec.*, page 4, lines 12-17; page 6, lines 14-17). In one example, the “local recess 20 extends substantially from the outer surface of the yoke half 4.1a toward the pivot axis parallel to the journal axis z1, preferably, as shown in Figure 1a, over the entire extent of the bore 9a in the direction parallel to the journal axis Z1.” (*Spec.*, page 10, lines 2-5). Accordingly, the Specification supports “a recess over the entire first region of stress.”

For at least the foregoing reasons, it is respectfully submitted that the subject matter of claim 37 is adequately described in the Specification. Furthermore, claims 38-42 ultimately depend from claim 37 as further limitations of claim 37. Accordingly, it is respectfully submitted that the amendments to claim 37 do not add new matter. Therefore, Applicants kindly request that the rejections of claims 37-42 under 35 U.S.C. § 112, first paragraph, be withdrawn.

VIII. REJECTION OF CLAIM 40 UNDER 35 U.S.C. § 112, 2ND PARAGRAPH

Claim 40 is rejected as indefinite under 35 U.S.C. § 112, second paragraph, as indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

“In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the [E]xaminer must consider the claim as a whole to determine whether the claim appraises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph by providing clear warning to others as to what constitutes infringement of the patent.” M.P.E.P. § 2173.012.

Claim 40's recitation of “**a second recess in a second region of stress**” is defined in the Specification. According to the Specification, a second region of stress may occur because “[t]he greatest deformation of the differential-pinion shaft is . . . caused by the introduction of circumferential force. Its direction fluctuates with the positive or negative value of the operational angle of bending and also changes with each reversing operation.” (*Spec.*, page 2, lines 13-16). These deforming forces are associated with “elastic deformations in the articulated

yoke both in the region of the leg or connecting members and within the bore of the bearing part” such as to create a “region of stress.” (*Spec.*, page 2, lines 11-13). Therefore, such fluctuations in direction would create deforming stresses on “a plane symmetrically relative to a plane describe by the longitudinal axis of the journal and the pivot axis of the journal” as recited in claim 40. Placement of a recess along a region of the bore’s support surface known to be opposite the plane effected by a negative rotation of the journal would necessitate two separate recesses for accommodating the journal at two separate regions of stress.

For at least the foregoing reasons, it is respectfully submitted that claim 40 particularly points out and distinctly claims the subject matter which Applicants regard as the invention. Accordingly, it is kindly requested that the rejection of claim 40 under 35 U.S.C. § 112, second paragraph, be withdrawn.

**VIII. REJECTIONS OF CLAIMS 25, 27-30,
32 AND 34-41 UNDER 35 U.S.C. § 102(b)**

Claims 25, 27-30, 32 & 34-41 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,512,679 to Petrzelka et al. (hereinafter "*Petrzelka '679*"). Respectfully, Applicants traverse.

Claims 27, 34 and 38 have been canceled herein without prejudice, thereby mooted the rejections of these claims. Furthermore, it is respectfully submitted that claims 25, 28-30, 32 and 35-41 are not anticipated by *Petrzelka '679* for at least the following reasons.

Claims 25, 32 and 37 have been amended to recite that the “recess accommodates deformation of the roller-bearing arrangement in the direction of the radial force to avoid partial contact between the journal and rolling elements.” Where normally the bore surface supports the roller-bearing element, here “[i]t is proposed that the supporting surface 10a, which is formed by the bore 9a, [is] provided with **recess 20 locally . . . [to] support the most highly stressed rolling elements 14 of the roller-bearing arrangement 11.**” (*Spec.*, page 9, lines 26-28). The dimension, position and design of the recess is wholly dependant on the journal’s load characteristics and a single recess can, for example, span to be as large as 5/10ths of the supporting surface. (*See, Spec.*, page 11, lines 9-14).

Petrzelka '679, in contrast, discloses a bearing bush 7 that is provided with a number of grooves 12, which extend across the circumference of an outer face 11 of a bearing bush 7 in a region 15. (*Petrzelka '679*, col. 3, lines 50-67). In one embodiment, the grooves 12 are disclosed as extending in a yoke bore from an innermost end to an outermost end, so that the distance of the grooves 12 from a centerline increases (i.e., the depth of the grooves 12 increases in a direction toward the outermost end). (*Petrzelka '679*, col. 4, lines 4-26). Here, the yoke bore continually supports the bearing member with the grooves in the bearing bush serving to aid in elastic deformation by adding flex to the bearing bush. (*Petrzelka '679*, col. 2, lines 21-33).

Since *Petrzelka '679* discloses a number of grooves incapable of accommodating the bearing member, this reference simply does not disclose a "recess [that] **accommodates deformation of the roller-bearing member in the direction of the radial force**" as recited in claims 25, 32 and 37.

For at least the foregoing reasons, it is respectfully submitted that claims 25, 32 and 37 are allowable over *Petrzelka '679*. Furthermore, since claims 28-30 ultimately depend from claim 25, claims 35-36 ultimately depend from claim 32, and since claims 39-41 ultimately depend from claim 37 it is respectfully submitted that these claims are also allowable over *Petrzelka '679* for at least the same reasons. Accordingly, it is kindly requested that the rejections of claims 25, 27-30, 32 & 34-41 under 35 U.S.C. § 102(b) be withdrawn.

**IX. REJECTIONS OF CLAIMS 31
AND 42 UNDER 35 U.S.C. § 103(a)**

Claims 31 and 42 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Petrzelka '679* in view of U.S. Patent No. 1,700,991 to Wintercorn (hereinafter "*Wintercorn*"). Respectfully, Applicants traverse.

As described above, *Petrzelka '679* does not disclose each and every feature of parent claims 25 or 37, from which respective claims 31 and 42 ultimately depend. Furthermore, any reading of *Wintercorn* makes clear that this reference fails to cure the critical deficiencies of *Petrzelka '679* as applied against parent claims 25 and 37.

For at least the foregoing reasons, it is respectfully submitted that claims 31 and 42 are allowable over the combination of *Petrzelka '679* and *Wintercorn*. Accordingly, it is kindly requested that the rejection of claim 31 under 35 U.S.C. § 103(a) be withdrawn.

X. CONCLUSION

In view of the foregoing, it is respectfully submitted that all pending claims are currently in allowable condition. Accordingly, reconsideration and prompt allowance of all pending claims is therefore earnestly solicited.

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